

(19)



Europäisches Patentamt  
European Patent Office  
Office européen des brevets

(11)

EP 0 949 279 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
13.09.2000 Bulletin 2000/37

(51) Int. Cl. <sup>7</sup>: C08F 10/00, C08F 4/643

(43) Date of publication A2:  
13.10.1999 Bulletin 1999/41

(21) Application number: 99201940.6

(22) Date of filing: 27.01.1988

(84) Designated Contracting States:  
AT BE DE ES FR GB IT LU NL SE

(30) Priority: 30.01.1987 US 8800  
22.12.1987 US 133480

(62) Application number of the earlier application in  
accordance with Art. 76 EPC: 91113752.9

(71) Applicant: Exxon Chemical Patents, Inc.  
Houston, Texas 77079 (US)

(72) Inventors:  
Turner, Howard William  
Campbell, California 95008 (US)  
Hlatky, Gregory George  
Morrow, Ohio 45152 (US)

(74) Representative:  
Veldhuizen, Albert Dirk Willem et al  
Exxon Chemical Europe Inc.,  
P.O.Box 105  
1830 Machelen (BE)

(54) Process for the preparation of a polymeric product with a catalyst consisting of an ion pair

(57) Process for the preparation of a polymeric product by polymerising  $\alpha$ -olefins, diolefins and/or acetylenically unsaturated monomers with a catalyst consisting of an ion pair comprising an anion of the general formula  $[BAr_1Ar_2X_3X_4]^-$  wherein:

B is boron in a valence state of 3;

$Ar_1$  and  $Ar_2$  are the same or different aromatic or substituted aromatic hydrocarbon radicals containing from 6 to 20 carbon atoms, optionally linked to each other through a stable bridging group, wherein at least one of  $Ar_1$  and  $Ar_2$  is a fluoro- or fluorohydrocarbyl-substituted, naphthyl

or anthracenyl radical; and

$X_3$  and  $X_4$  are radicals selected, independently, from hydride radicals, halide radicals, with the proviso that only  $X_3$  or  $X_4$  will be halide at the same time, hydrocarbyl radicals containing from 1 to 20 carbon atoms, substituted hydrocarbyl radicals, wherein one or more of the hydrogen atoms is replaced by a halogen atom, containing from 1 to 20 carbon atoms, hydrocarbyl-substituted metal (organometalloid) radicals wherein each hydrocarbyl substitution contains from 1 to 20 carbon atoms and said metal is Group IV-A of the Periodic Table of Elements.

EP 0 949 279 A3



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 99 20 1940

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	<p>JORDAN R F ET AL: "ETHYLENE POLYMERIZATION BY A CATIONIC DICYCLOPENTADIENYLZIRCONIUM (IV) ALKYL COMPLEX"</p> <p>JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, US, AMERICAN CHEMICAL SOCIETY, WASHINGTON, DC, vol. 108, 1 January 1986 (1986-01-01), pages 7410-7411, XP002019566</p> <p>ISSN: 0002-7863</p> <p>* page 7411, column 2, paragraph 2 *</p> <p>-----</p>	1	<p>C08F10/00</p> <p>C08F4/643</p>
			<p>TECHNICAL FIELDS SEARCHED (Int.Cl.7)</p> <p>C08F</p>
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 14 June 2000	Examiner Fischer, B
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.02 (PatCo1)